DOCUMENT RESUME

ED 225 980 SP 021 759

AUTHOR Lee, Helen C.
TITLE A Program for Educating Future Teachers in Methods of Integrating Computer Use into Their Classroom Resources.
PUB DATE [83]
NOTE 12p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Computer Literacy; Elementary Secondary Education; Inservice Teacher Education; Learning Processes; *Microcomputers; Preservice Teacher Education; *Teacher Participation; Teacher Workshops; Teaching Methods; *Training Methods

ABSTRACT

Suggestions are presented for planning, presenting, and following up workshops for teachers who are learning to use a microcomputer in their classroom. The following points are made: (1) Teachers should be involved in planning the workshop; (2) Hands-on demonstrations of computer use with students in the presence of teachers should be conducted before asking teachers to work on computers; (3) Workshops should be conducted in a comfortable place with good sight-lines; (4) If possible, participants should be shown the inside of the computer and how it works; (5) Female as well as male teachers should be encouraged to participate actively in the presentation; (6) Both hands-on experience and a professionally useful product should be provided for teachers; (7) Administrators should be encouraged to place the computer where teachers can experiment with it during the school day when they have free time; (8) Software appropriate to various subject areas and grade levels should be demonstrated; (9) Examples should be given of how to integrate computer use into existing classroom practices at all grade levels and in all subject areas; (10) Print materials on educational microcomputing should be displayed prominently in the school; and (11) All questions should be answered, making questioners feel issues they raise are important. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED225980

A PROGRAM FOR EDUCATING FUTURE TEACHERS IN METHODS OF INTEGRATING COMPUTER USE INTO THEIR CLASSROOM RESOURCES

Dr. Helen C. Lee, Ed.D
Indiana University - Purdue University at Fort Wayne
Fort Wayne, Indiana

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Helen C. Lee

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

✓ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

SP 021 759

A PROGRAM FOR EDUCATING FUTURE TEACHERS IN METHODS OF INTEGRATING COMPUTER USE INTO THEIR CLASSROOM RESOURCES

Challenging both teachers and administrators, the coming of microcomputers to the classroom has created a spin-off growth industry for consultants. Whether the consultant is a supervisory employee of the school system, an outside advisor such as a sales representative, or a lay member of the community who has been asked to come to school to show the faculty how a computer works makes no difference in how the consultant should approach the mission, which has three aspects: planning, presentation, and follow-up.

A growing body of experience can guide consultants. The Curriculum Laboratory in the Education Division of Indiana University-Purdue University at Fort Wayne, Indiana has conducted an outreach program of in-service training for teachers in educational microcomputing as well as in other aspects of instructional improvement since 1976. During workshops in 1980-1981, when a microcomputer component was introduced into the list of topics available for workshop focus, few teachers were interested. But, when more computers began to appear in schools in 1981-1982, interest increased; however, in some schools, no one ventured to unpack the machines until the consultant was ready to work with them.

These tips summarize what the consultants have learned:

Tip Number One: Involve teachers in planning the

in-service.

Previous to the sessions, the consultant either meets with a steering committee of teachers or submits a list of computer topics from which teachers choose desired presentations. Teacher unions have recently secured language in master contracts which adds credit on the salary scale for teachers who use in-service opportunities provided by the school system and planned jointly by teachers and administrators. When teachers participate in planning workshops, they make a stronger commitment to the experience, and it is more likely to affect their classroom behavior. The consultant needs to take advantage of every opportunity to receive teacher guidance about what they need to know.

Tip Number Two: Conduct hands-on demonstrations of computer use with students in the presence of teachers before asking teachers to work on computers.

Some teachers pointed out that, although they did not intend to use the computer in their classes, they were eager to see a demonstration of its use by their students. When the invitation was issued to teachers to sign up their classes for demonstration teaching, a large percentage of teachers in each building quickly filled available slots.

Teachers were able to see children making their way through the initial processes of computer use, asking questions beginners of every age need to have

answered. Teachers experienced initiation into computer use vicariously before they were called on to venture a try for themselves. Proved successful in workshops on other topics, this approach displayed its ability to dispel reticence and enlist teacher interest in computers.

Students usually gathered around the machine, crowding close, providing an example to their elders. A lesson attractive to learners is universally sought by teachers. Teachers saw their students alert, interested, absorbed in the new technology, doing a drill, perhaps, that they would have found dull, had they been filling blarks in a workbook. Some actually pled to be allowed to finish before surrendering the machine to a classmate, although many accept the need to take turns as they have learned to do on video game machines. They watch their classmates do a drill as intently as they watch friends work machines in the arcade. Teachers who seem receptive are usually asked to help in the demonstration with the children. This helps transfer a familiar role to the new technology and furnishes a model for fellow teachers who are less forthcoming.

Particularly stimulating to educators is the experience of seeing handicapped children or children with behavior problems who are mainstreamed into regular classrooms react positively, as they often do, to computer use. When a teacher sees a child, whose

hands are unable to hold a pencil or pen, is able to write for the first time by using a computer keyboard, conviction that microcomputer-assisted education has something precious to offer is not long delayed. Hence, it is important to make sure that all kinds of learners, not just those who bear a certain label such as "gifted," are in classes for which demonstrations are given.

Tip Number Three: Hold the workshop in a comfortable setting, which invites hands-on participation.

The media center may be the right spot for the presentation because it projects a warmer, more comfortable atmosphere than does auditorium, gymnasium or cafeteria. Chairs should be set close to the computer, so that teachers have no opportunity to distance themselves physically from it. Good sight lines are requisite, so a large television monitor or two, depending on the size of the group, should be attached to the computer. If extra computers can be borrowed for the occasion from dealers or other schools, more hands-on experiences can be provided.

Tip Number Four: If possible, show the inside of the computer.

Most participants in workshops like to look under the cover and lift the machine. Some brands are quite light, demonstrating that the power of the microprocessor, unlike the motor driven mechanisms of the past, does not require weight to achieve effectiveness. If

it is not safe or possible to open a computer, have a demonstration computer which can be opened. If this is not convenient, models or pictures can be passed around and handled.

Tip Number Five: Encourage female as well as male teachers to participate actively in the presentation.

Some teachers are uncomfortable with machines of any kind. Girls in our culture have less exposure to machines, and they seldom play the video games that prepare boys to use a computer. Most elementary teachers are women, and they may need special reassurance. They must not be allowed to sit back while their few eager male colleagues participate.

Tip Number Six: Provide both hands-on experience and a professionally useful product for teachers to take away.

As the consultant presents the program, teachers, not the consultant, should handle the keyboard, taking short turns. The consultant should give verbal instructions, not preempt the activity of the keyboarding teacher. The consultant who demonstrates on the keyboard deprives participants of hands-on learning and makes the teacher feel incompetent. As many teachers as possible should work on the keyboard so that they can see how friendly it is. A large mock-up keyboard, visible to all, enables the consultant to give verbal instructions to the keyboarder, while, at the same time, pointing the attention of the group

to keys being used.

It takes time to master use of the computer, and there is always something new to learn. Consultants should encourage administrators to place the computer where teachers can experiment with it during the school day when they have free or preparation time. Teachers should be allowed to take the computer home overnight, on weekends, or during vacations. At these times they can work on it with their own children or alone and undisturbed.

A sure way to make teachers feel good about their computer in-service session is to involve them in a successful experience which produces a professionally useful product. For instance, teachers often like to use word searches for vocabulary or spelling practice. Creating a lesson-related word search on the computer takes only a few minutes. On the typewriter it can take hours. Making some of these during a workshop session is a lively experience for beginners and demonstrates in a simple way how well computers serve the needs of teachers to do what they want to do better, more easily, and more quickly.

Tip Number Seven: Show software appropriate to various subject areas and grade levels.

Quality commercial as well as public domain (non-copyrighted) software should be presented; manuals and supplementary materials for programs should be provided. Software evaluation forms should be handed out

and discussed, so that teachers can know and apply criteria for evaluation and selection. Administrators should be reminded to involve teachers and students in evaluation and selection of software and print materials about computers. No programs should be purchased unless teachers and children in a school considering the purchase have used them.

Public domain software should be left for teachers to copy. Some schools give each participating teacher a disk which can be used to copy public domain programs appropriate to that teacher's grade level or subject area. During the session, teachers who exhibit some background of experience with computers or who seem more interested than others should be taught to copy programs. They can teach their colleagues or copy for them. Teachers or students may want to create their own software and share it with other classes or teachers may want to learn to adapt generator programs such as the crossword puzzle to their needs. Some may want to form computer clubs or give demonstrations for parent meetings.

Tip Number Eight: Give examples of how to integrate computer use into existing classroom practices at all grade levels and in all subject areas.

Discuss the problems of scheduling each class to use the computer and using one computer with thirty students. Show how the large monitor displays to all students what one student is doing in a drill exercise.

Demonstration group decision-making on a simulation while classmates in turn carry out class decisions on the keyboard. Methods of using the computer to create interest centers for small groups or individual student activities should be described. Deal also with ways computer-wise students create activities to exchange with classmates and how peer teaching spreads computer competence.

Teachers of all subjects and grade levels should feel microcomputers are useful to them. Such a feeling causes them to support use of school funds to obtain more computers at a time of financial retrenchment, when claims on school budgets compete for funding. If the microcomputer is monopolized by one department or only a few teachers, other teachers will ask that future allocation of funds be directed toward items that are used by all.

Tip Number Nine: Arrange for print materials such as magazines, newsletters, books, and catalogs on educational microcomputing to be displayed in a prominent place in the school.

The curriculum laboratory outreach takes place over a one-week period in each school, allowing the consultant, who comes to the school on two half-days, to leave readable, attractive magazines, books, and a bibliography of materials for both teachers and children. Teachers themselves often like to learn from the clear explanations that are found in children's

computer books. Materials belonging to the curriculum laboratory may be checked out for extended periods. A poster displaying cartoons on computers that appear in current magazines and newspapers decorates the room where the computer is placed. It reminds the school staff that the computer is considered by the popular press a fruitful topic for public comment and that many people find computers a source of fun and enjoyment.

Tip Number Ten: Answer all questions, making questioners feel issues they raise are important.

In a teacher workshop, most teachers will be beginners. Great respect should be accorded each question, so that all questions will surface. Encourage participants to refer further questions that will naturally arise when the computer is more used to the consultant by telephone or mail.

If the workshop is conducted from a facility such as a university teacher center, support activities may be continued by the consultant after the workshop is completed. Additional workshop sessions may be scheduled to solve problems that develop over time. A college teacher center should be a source of up-to-date developments in the field of microcomputer education, current issues and files of microcomputer magazines, and annotated bibliographies of materials and sources. Demonstration software, including programs in the public domain, should be abundant. If

the teacher center has a microcomputer laboratory, field trips can be offered to teachers and their students.

Sometimes a teacher needs to explore this new technology without too many onlookers. Such a teacher should feel welcome to drop in and use the laboratory, browse among materials, and explore programs without being observed. Help should be at hand when requested. If the teacher center is part of a university that offers a degree program in teacher education, courses in educational microcomputing should be developed.

These suggestions for planning, presenting, and following up in-service projects in microcomputer education arise from the practical experience of consultants who work out of the Curriculum Laboratory at Indiana University-Purdue University at Fort Wayne. Presented to thousands of teachers and their students during the past few years, this pattern of in-service training has evidenced its success in an ever-increasing demand for continuation, repetition, and expansion.